



Manufacturer's Information

Test No. 19-5301/5: GSR Distance Determination

Each sample set contained a piece of clothing evidence (Q1) for chemical processing and either photographs or digital images of known distance test GSR patterns on unprocessed test fabric (K1a) and test fabric after chemical processing using Modified Griess (K1b) and Sodium Rhodizonate (K1c). Participants were requested to process the clothing item and report the range of distances that the muzzle of the firearm could have been from the fabric (Q1) at the time of discharge.

SAMPLE PREPARATION: The firearm used to produce the distance standards and evidence item was a Sig Sauer model MPX 9mm semiautomatic handgun and the ammunition was Prvi Partizan 9mm 115 grain FMJ.

DISTANCE STANDARDS (K1a-c): The fabric used for the known distances was white cotton. The firearm was locked into a fixture and the white cotton fabric was placed at a predetermined distance from the firearm. This was done for each of the predetermined distances. First, the known GSR patterns were imaged. Each known pattern was then processed using the Modified Griess procedure. Immediately following processing, the film paper was imaged. Finally, the known patterns were processed with Sodium Rhodizonate reagents, and the fabric imaged immediately after processing.

QUESTIONED ITEM (Q1): Item Q1 consisted of one section of a white T-shirt material (60% Cotton, 40% Polyester blend knit). The firearm was locked into a fixture and the shirt was placed 7 inches away from the muzzle of the firearm. After firing, the article of clothing (Q1) was packaged between two pieces of chipboard and placed into an envelope. This process was repeated until all of the items were created.

SAMPLE SET ASSEMBLY: For the printed photos, the Q1, K1a, K1b, and K1c envelopes were placed into a pre-labeled sample pack envelope, sealed with evidence tape, and initialed "CTS." For the Digital Download version, the Q1 item was placed in a pre-labeled sample pack envelope and the K1a, K1b and K1c files were loaded onto the CTS Portal.

VERIFICATION: All three predistribution laboratories reported a greater than/less than range that surrounded the expected distance.

The information presented here details how test samples were prepared as well as any design specifications. This information does not necessarily represent the answers that should or could be obtained from an examination of the sample(s). Final interpretation of the results should be deferred until the summary report is available.